

This manual contains **IMPORTANT WARNINGS AND INSTRUCTIONS**.
READ AND RETAIN FOR REFERENCE

SUPPLEMENTARY INFORMATION

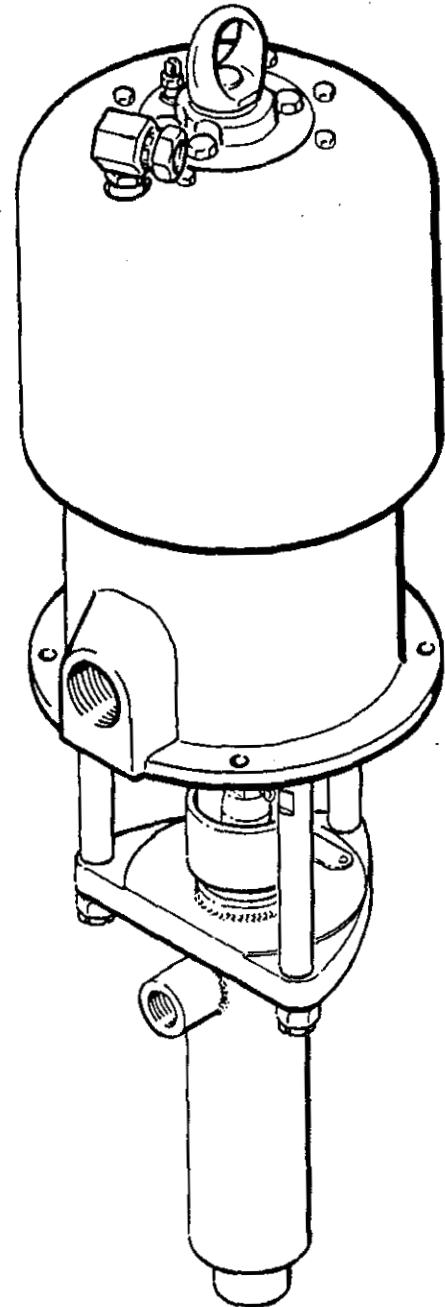
45:1 Ratio King™ Pump, Model SP 218-335

4050 psi (283 bar) *MAXIMUM WORKING PRESSURE*
90 psi (6.3 bar) *MAXIMUM AIR INPUT PRESSURE*

Stubby Size, with Standard Air Motor and
Severe-Duty Displacement Pump, Model SP 217-527

NOTE: This manual includes parts information for Model SP 218-335 King Pump and Model SP 217-527 Displacement Pump. It is for use only as a supplement to Manuals 307-013 and 307-728, which are supplied with your pump.

Refer to Manuals 307-013 and 307-728 for important safety warnings and instructions. Read and understand those manuals before operating the pump.



SAFETY WARNINGS

THIS MANUAL IS FOR USE ONLY AS A SUPPLEMENT TO MANUALS 307-013 AND 307-728.
Read And Understand All Instruction Manuals Before Operating Equipment.
OBSERVE ALL WARNINGS GIVEN IN THOSE INSTRUCTION MANUALS.

SERVICE

WARNING

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin, or injury from moving parts, always follow this procedure whenever you shut off the pump, when checking or servicing any part of the spray/dispersing system, when installing, cleaning or changing spray tips/nozzles, and whenever you stop spraying/dispersing.

1. Engage the spray gun/dispersing valve safety latch.
2. Shut off the air to the pump.
3. Close the bleed-type master air valve (required in your system).
4. Disengage the gun/valve safety latch.

5. Hold a metal part of the gun/valve firmly to the side of a grounded metal pail, and trigger the gun/valve to relieve pressure.
6. Engage the gun/valve safety latch.
7. Open the drain valve (required in your system), having a container ready to catch the drainage.
8. Leave the drain valve open until you are ready to spray/disperse again.

If you suspect that the spray tip/nozzle or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Now clear the tip/nozzle or hose.

DISCONNECTING THE DISPLACEMENT PUMP

1. Flush the pump if possible. Stop the pump at the bottom of its stroke. Follow the **Pressure Relief Procedure Warning** above.
2. Disconnect the air and fluid hoses. Remove the pump from its mounting.
3. See Fig 1. Screw the coupling nut (41) off of the air motor piston rod. Be careful not to lose the two couplers (40) as you lower the nut. Unscrew the tie rod locknuts (26) from the tie rods (31). Carefully pull the displacement pump (2) away from the air motor (1).

NOTE: Do not remove the connecting rod (42) from the displacement rod (C) unless the displacement rod is being replaced. If that is necessary, save the connecting rod for use with the new displacement rod.

4. To service the displacement pump, refer to **Displacement Pump Model SP 217-527** at right. To service the air motor, refer to instruction manual 306-968 (supplied).

RECONNECTING THE DISPLACEMENT PUMP

1. See Fig 1. If it was necessary to remove the connecting rod (42), apply a removable grade of Loctite® to its threads before assembling it to the displacement rod (C), and torque to 100-110 ft-lb (135-150 N.m).
2. Align the pump's fluid outlet (A) to the optional fluid outlet (B) of the air motor. Position the displacement pump (2) on the tie rods (31).
3. Place the coupling nut (41) onto the connecting rod (42). Insert the couplers (40) into the coupling nut (41).

from the top. Screw the coupling nut up onto the air motor shaft snugly. Screw the locknuts (26) onto the tie rods (31) loosely.

3. Mount the pump and reconnect all hoses. Reconnect the ground wire if it was disconnected during repair.
4. Tighten the tie rod locknuts (31) evenly, and torque to 40-50 ft-lb (54-68 N.m). Torque the coupling nut (41) to 145-155 ft-lb (195-210 N.m).
5. Start the pump and run it slowly, at about 40 psi (2.8 bar) air pressure, to check the tie rods for signs of binding. Adjust the tie rods as necessary to eliminate binding. Tighten the packing nut/wet-cup (D) with the wrench (28) supplied, so it is just snug - no tighter. Fill the wet-cup half full with Graco Throat Seal Liquid or compatible solvent.

DISPLACEMENT PUMP MODEL SP 217-527

Refer to the Parts Drawing and List on page 5. The Ref. Nos. in the parts list correspond with those in Manual 307-728.

To repair Displacement Pump SP 217-527, refer to Instruction Manual 307-728 and follow all instructions given there, with the following exceptions:

1. Packing Repair Kits 220-395 and 223-643 referenced in 307-728 do not include gland/packing stack 223-480, which is used in Model SP 217-527. The v-packings in this stack are one PTFE and four leather, as shown on page 5.
2. The method of connecting Displacement Pump SP 217-527 to the air motor is different from that described in 307-728. Refer to the preceding paragraphs in this Supplement for instructions.

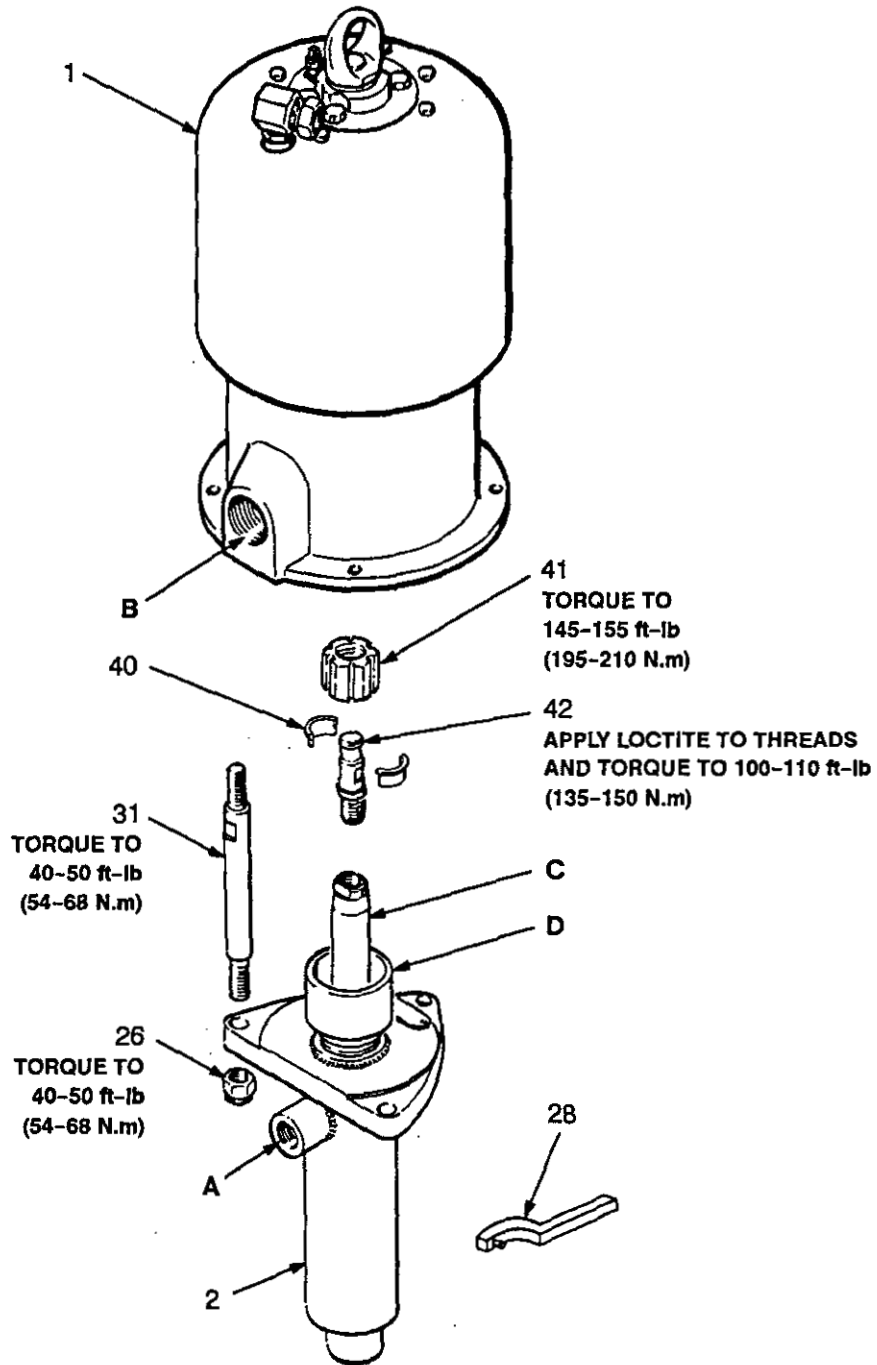
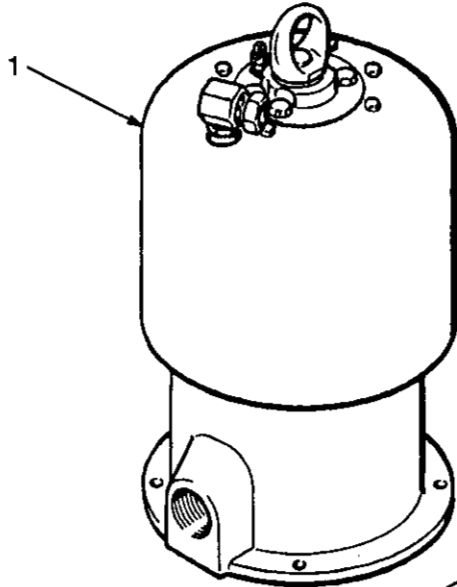


Fig 1

PARTS DRAWING AND PARTS LIST

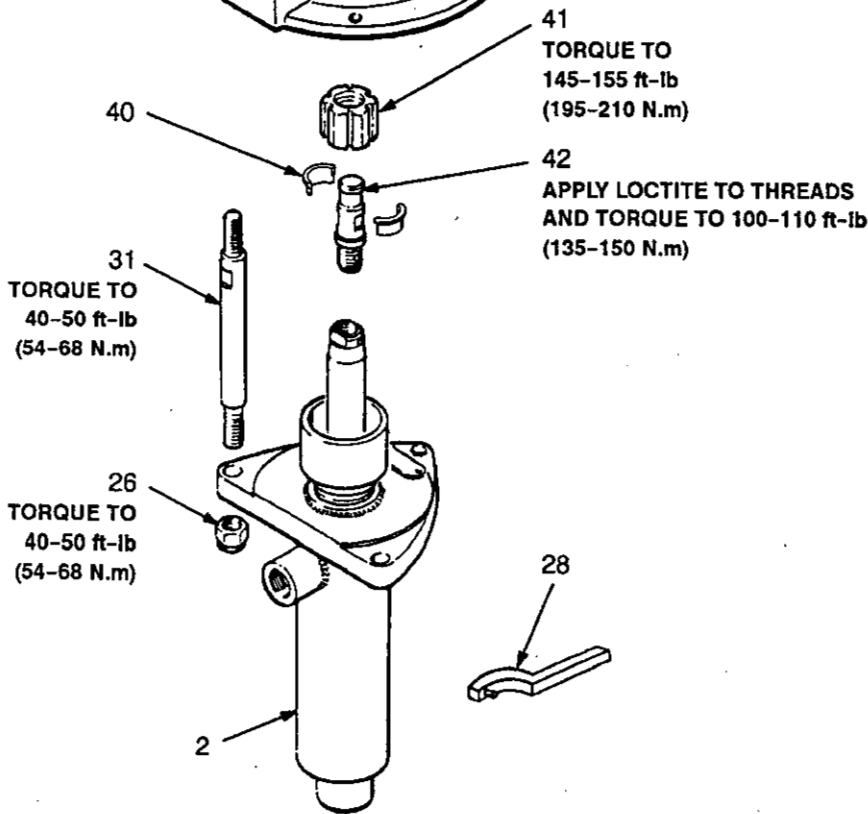
Model SP 218-335, Series A
Stubby Size, with Standard Air Motor
and Severe-Duty Displacement Pump
 Includes items 1-42



| REF NO. | PART NO. | DESCRIPTION | QTY |
|---------|------------|--|-----|
| 1 | 207-647 | AIR MOTOR See 306-968 for parts | 1 |
| 2 | SP 217-527 | DISPLACEMENT PUMP ASSY See page 5 for parts | 1 |
| 26 | 101-712 | NUT, lock; 5/8-11 | 3 |
| 28 | 102-176 | WRENCH | 1 |
| 31 | 167-911 | ROD, tie; 7" (178 mm), shoulder-to-shoulder | 3 |
| 39 | 172-447*** | LABEL, warning (not shown) | 1 |
| 40 | 185-336 | COUPLERS | 2 |
| 41 | 185-337 | COUPLING NUT | 1 |
| 42 | 186-575 | ROD, connecting | 1 |

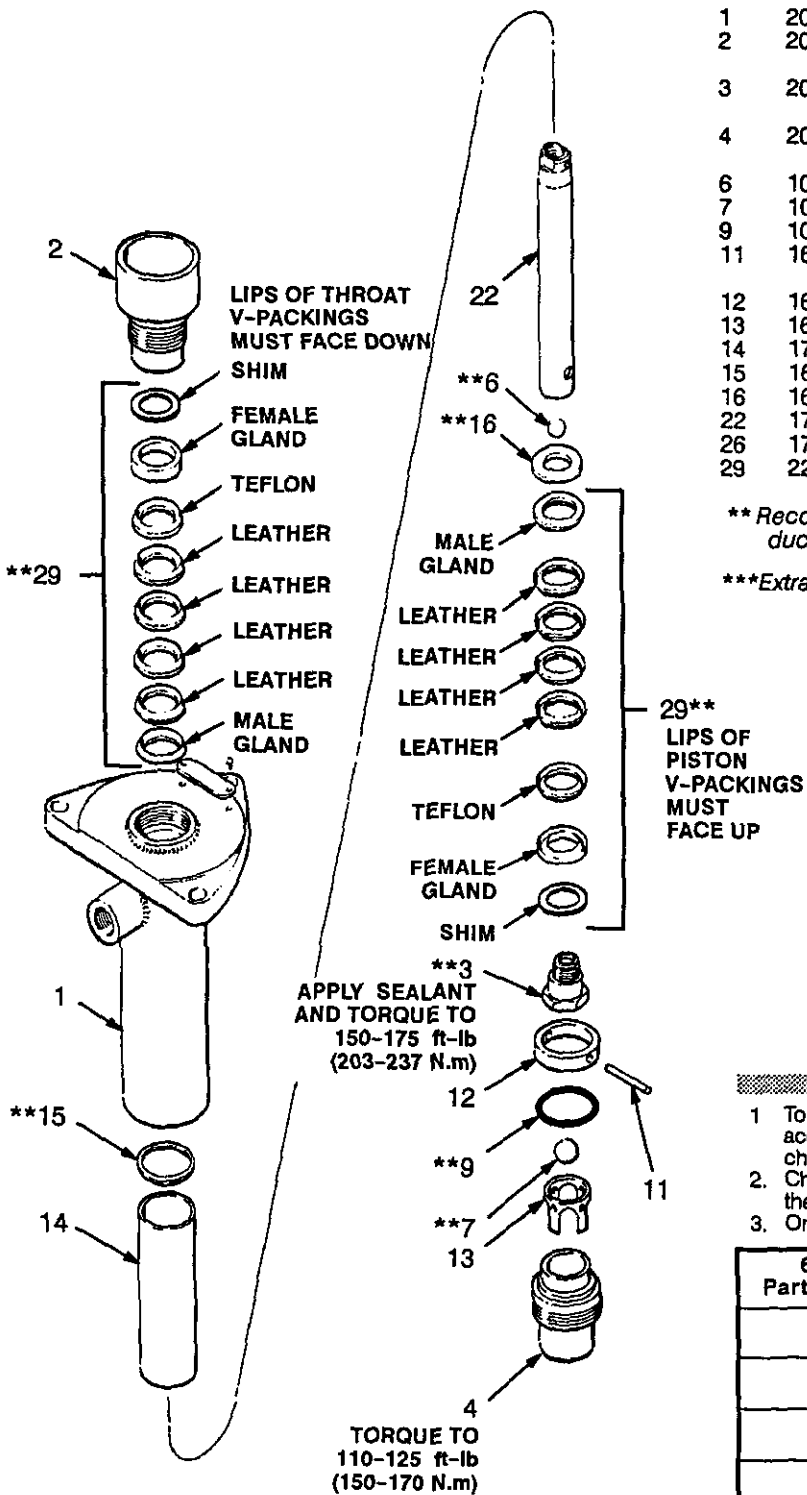
***Extra warnings and tags are supplied at no charge.

306 and 307 numbers in descriptions refer to separate instruction manuals, supplied.



PARTS DRAWING AND LIST

Model SP 217-527 Displacement Pump
Includes items 1-29



| REF NO. | PART NO. | DESCRIPTION | QTY |
|---------|------------|--|-----|
| 1 | 207-470 | HOUSING, pump; carbon steel | 1 |
| 2 | 207-471 | PACKING NUT/WET-CUP; carbon steel | 1 |
| 3 | 207-472** | PISTON; carbon steel with tungsten carbide seat | 1 |
| 4 | 207-473 | HOUSING, intake valve; carbon steel with tungsten carbide seat | 1 |
| 6 | 102-972** | BALL, stainless steel; 7/8" dia. | 1 |
| 7 | 102-973** | BALL, stainless steel; 1-1/4" dia | 1 |
| 9 | 106-260** | O-RING; PTFE | 1 |
| 11 | 167-890 | PIN, ball stop, intake valve; carbon steel | 1 |
| 12 | 167-891 | RETAINER; carbon steel | 1 |
| 13 | 167-892 | GUIDE, ball; carbon steel | 1 |
| 14 | 178-894 | SLEEVE; stainless steel | 1 |
| 15 | 167-PTFE | GASKET; Teflon® | 1 |
| 16 | 167-895** | WASHER, flat; carbon steel | 1 |
| 22 | 178-888 | ROD, displacement; stainless steel | 1 |
| 26 | 172-479*** | TAG, warning (not shown) | 1 |
| 29 | 223-480** | GLAND/PACKING STACK | 2 |

** Recommended "tool box" spare parts. Keep on hand to reduce down time.

***Extra warnings and tags are supplied at no charge.

HOW TO ORDER PARTS

1. To be sure you receive the correct replacement parts, kits or accessories, always give all of the information requested in the chart below.
2. Check the parts list to identify the correct part number; do not use the ref. no. when ordering.
3. Order all parts from your nearest Graco distributor.

| 6 digit Part Number | Qty | Part Description |
|---------------------|-----|------------------|
| | | |
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NOTES: _____

TECHNICAL DATA

| | |
|---|--|
| Maximum fluid working pressure | 4050 psi (283 bar) |
| Air input pressure operating range | 20-90 psi (1.4-6.3 bar) |
| Pump cycles per 1 gallon (3.8 liters) | 16 |
| Maximum recommended pump speed for continuous operation | 50 cycles per min |
| Air consumption | approx. 38 scfm (1.0 m ³ /min) |
| | at 1 gpm (3.8 liters/min) at 70 psi (4.9 bar) air pressure |
| Wetted parts | 304, 440 and 17-4 PH Grades of Stainless Steel, Carbon Steel, Tungsten Carbide, Chrome and Zinc Plating, Teflon PTFE ther |

PTFE is a registered trademark of the Du Pont Co.

Loctite® is a registered trademark of the Loctite Corp.

THE GRACO WARRANTY AND DISCLAIMERS

WARRANTY

Graco warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. As purchaser's sole remedy for breach of this warranty, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment proven defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for, any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility with Graco equipment of structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claim. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor and transportation.

DISCLAIMERS AND LIMITATIONS

THE TERMS OF THIS WARRANTY CONSTITUTE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AND ARE IN LIEU OF ANY OTHER WARRANTIES (EXPRESS OR IMPLIED), INCLUDING WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY NON-CONTRACTUAL LIABILITIES, INCLUDING PRODUCT LIABILITIES, BASED ON NEGLIGENCE OR STRICT LIABILITY. EVERY FORM OF LIABILITY FOR DIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS IS EXPRESSLY EXCLUDED AND DENIED. IN NO CASE SHALL GRACO'S LIABILITY EXCEED THE AMOUNT OF THE PURCHASE PRICE. ANY ACTION FOR BREACH OF WARRANTY MUST BE BROUGHT WITHIN TWO (2) YEARS OF THE DATE OF SALE.

EQUIPMENT NOT COVERED BY GRACO WARRANTY

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO ACCESSORIES, EQUIPMENT, MATERIALS, OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motor, switches, hose, etc.) are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

IMPORTANT PHONE NUMBERS

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you:

1-800-328-0211 Toll Free

FOR TECHNICAL ASSISTANCE, service repair information or assistance regarding the application of Graco equipment: **1-800-543-0339 Toll Free**

Factory Branches: Atlanta, Chicago, Dallas, Detroit, Los Angeles, West Caldwell (N.J.)
Subsidiary and Affiliate Companies: Canada; England; Switzerland; France; Germany; Hong Kong; Japan

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